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TIMELY FARM TOPICS No. 47a
(Farm Science Serves the Nation No. 26)

THIS TRIP WAS NECESSARY

A transcribed interview between Joe Tonkin, Office of Information, and D. F. Fisher, Principal Horticulturist in Charge of Investigations on Handling, Transportation and Storage of Fruits and Vegetables, U. S. Department of Agriculture. Recorded November 8, 1945. Time, without announcer's parts, seven minutes and seven seconds.

ANNOUNCER'S OPENING AND CLOSING

OPENING

ANNOUNCER: (LIVE)

And now by transcription...from the United States Department of Agriculture...we learn how science helps the farmer and the housewife...by keeping fresh foods fresh from farm to grocery store.

In Chicago, Boston, New York -- in big cities and small towns all over the country -- women are shopping today for farm-fresh vegetables and orchard-fresh fruits...produce that may have come in just this morning over thousands of miles -- in rolling refrigerator cars.

Was this trip necessary?

Ask the housewife, who buys a fine head of lettuce from Arizona or California...snapbeans from the Everglades of Florida...potatoes from Maine or Idaho...broccoli from the Rio Grande...apples from the Pacific Northwest or the Shenandoah Valley...vitamin-packed oranges from California or Florida!

Yes -- this trip was necessary. And now we're going to hear from a scientist who helped to make this trip possible. Mr. D. F. Fisher, of the Department of Agriculture, who will be interviewed by Joe Tonkin.

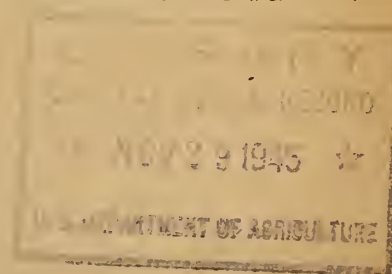
CLOSING

ANNOUNCER: (LIVE)

You've heard D. F. Fisher, of the United States Department of Agriculture, telling us how research on food transportation helps the farmer who grows the food and all of us who eat and enjoy it.

This is Number 26, in a series entitled "Farm Science Serves the Nation."

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JOE TONKIN: (Transcription) Mr. Fisher, since it's your responsibility to work out ways of handling and shipping fresh produce -- suppose you tell us something about that angle of the business.

D. F. FISHER: First of all, Mr. Tonkin, we must give credit to the railroads and refrigerator cars. Have you ever stopped to think where we'd be these days, without refrigerator cars?

TONKIN: Well I s'pose a lot of people would be getting all their fruits and vegetables out of tin cans -- in the winter time.

FISHER: Yes -- and there'd still be sagebrush growing on the cattle range where we now have some of the most highly developed and most prosperous agricultural enterprises in the world -- like the Imperial Valley in California, the Yencatchee and Yakima Valleys in Washington, the great Winter Garden along the Rio Grande in Texas, and the fabulous muck-lands around Lake Okechobee, in the heart of Florida's Everglades. In this great country of ours, we have many regions blessed with "just what the doctor ordered" -- to grow certain crops to perfection.

TONKIN: But the doctor didn't specify -- just how these crops were to get to a place 3,000 miles away -- and still have that "garden-fresh" taste!

FISHER: No, he left that job for some other people to work on. To understand why we go about it as we do, you must remember that fruits and vegetables are alive. Like human beings, they use up oxygen and give off carbon dioxide -- much as we do in breathing. But after harvest, fruits and vegetables have no access to new food supplies, so they start using up the materials they've stored during growth.

TONKIN: Don't these materials happen to be the same things that we, also, want for food?

FISHER: Yes, they do. And the rate at which a carrot or an apple lives and depletes the food we want, depends on the temperature at which it is kept after harvest. If you keep an apple, for instance, at 70 degrees, it will use itself up as much in three days as it would in 30 days at 30 degrees.

That's why we recommend that apple growers rush their fruit into cold storage immediately after harvest. It extends the market life of the apples, and gives you better tasting fruit when you buy these apples in New York or Seattle. Now let's take a vegetable. Any one you like especially?

TONKIN: Why yes -- I especially like garden peas.

FISHER: All right. Have you ever gone to a local farmers' market, and been disappointed to find so-called "fresh-picked" garden peas -- that were wilted and unattractive?

TONKIN: I certainly have!

FISHER: Maybe you went to another stall in the same market, and found some peas from California that were still fresh-looking, with plump green pods -- in spite of having been picked 10 to 14 days previously.

TONKIN: I'd take my chance on the peas from California.

FISHER: So would I, in that case, because they'd been kept fresh with ice. The California peas came with crushed ice in the basket or crate, with tons of ice on top of the load as it was stacked in the car, and with more tons of ice in the bunkers or ice boxes at each end of the car. The peas were cooled quickly, and were kept cold all the way to your market. The other peas -- that looked wilted even though they had been picked only the day before -- had not been protected with ice, so they worked fast on themselves, and were soon wilted and minus a lot of their sugar.

TONKIN: So it's ice -- that makes the difference.

FISHER: That's it.

TONKIN: Well what interests me -- is how you get good cantaloupes clear across the country.

FISHER: Cantaloupes used to be a gamble, but I'm glad to say the risk is getting less and less, and will soon disappear. With cantaloupes, since they ripen so fast, we must do one of two things: Give them extra special refrigeration, so they won't be overripe or decayed after a long trip -- or pick them green and immature.

Unfortunately for the reputation of the cantaloupe, more have been picked green than ripe. There's hope for the future, however, because now we know how to refrigerate cantaloupes more effectively.

TONKIN: Wish you'd tell us how you do it.

FISHER: Well to begin with, the farmer picks the melons at the hard-ripe, full-slip stage -- instead of the half-slip. That means he leaves them on the vines until the stem just begins to crack away where it's attached to the melon -- instead of picking them while they're still immature.

Then he rushes the vine-ripened melons to the packing house, where they're sorted, packed, and loaded into a car. When the car is fully loaded, about 10,000 pounds of crushed ice are blown over the top of the load, the bunkers are filled with chunks of ice, and salt is added to make the ice in the bunkers melt faster.

TONKIN: The salt takes the heat out of the load?

FISHER: That's not quite right. The salt makes the ice melt faster -- and it's the melting ice that cools the load. Up to now, it has been customary to pre-cool loaded cars with a blast of cold air, either from a mechanical refrigerating unit or by fans temporarily attached to the bunkers before the car is rolled. This means a delay of 8 to 16 hours or more before the trip to market is started, and if the pre-cooling job is not thoroughly done, the melons arrive too ripe.

TONKIN: With the new method -- I s'pose the car is ready to roll as soon as it's iced.

FISHER: Yes, with the new top-icing method there's no delay, the car is ready to roll at once, in effect it pre-cools the load while it goes -- and when the top ice is melted, the bunker ice keeps the melons cool the rest of the way. So they arrive in sound condition, and with enough life left to get them to your breakfast table at the peak of perfection.

During the war years the railroads couldn't use this method to any great extent, because they were handicapped by a shortage of ice. But I believe it's the coming thing -- for quality melons.

TONKIN: It sounds like a fine system for melons. But what about such things as tomatoes and sweetpotatoes?

FISHER: Well they're quite a different problem -- and one even more difficult. For one thing, they can't stand too much cold. The railroad refrigerator car is designed to keep things cold, but ordinarily -- as in your household refrigerator -- there's a variation of several degrees in different parts of the car. Near freezing at the coldest place, and perhaps 50 or 55 degrees at the warmest spot.

Some things -- like tomatoes and sweetpotatoes -- need to be kept at this upper range, but are damaged by prolonged exposure to lower temperatures, especially those in the 30's. The problem is how to keep what is normally the coldest parts of the load from getting so cold. Well, one way we can do it is to keep the ice from melting so fast, and keep all the ice in the upper part of the bunkers.

TONKIN: And what about using salt with the ice?

FISHER: In these cases we'd never use salt. And instead of breaking the ice up into coarse chunks, the Department recommends either packing in the big 300-pound blocks of ice tight against each other -- or crushing the ice, and blowing every inch of the bunker tight full.

Some of the newer refrigerator cars have air circulating fans driven from the car wheels -- and these also are helpful in equalizing temperatures. But at best, we have a hard time trying to provide the uniform medium cold temperature needed by such produce as tomatoes and sweetpotatoes.

As a final point -- we often hear it said this is an age of "specialization." It certainly is, so far as the country's fresh produce supply is concerned. What we must do now is carry the specialization even farther, and provide special transit conditions for special crops.

TONKIN: Thank you very much, Mr. Fisher, for telling us some of the ways already worked out -- to provide us with fresh produce all the year around.

